

# **Chapter 1**

## **Signal Support**

### **Section I.**

#### **Signal Support Disciplines**

#### **1-1. Information Mission Area (IMA)**

Under the IMA concept, signal support provides the commander the means to command and control (C<sup>2</sup>) on the battlefield. The IMA doctrine covers all aspects of information management. It consists of five disciplines:

- Communications.
- Automation.
- Visual Information (VI).
- Records Management.
- Printing and Publications.

The signal support responsibilities to each of these disciplines differ at the tactical, operational, and strategic levels of war. All signal personnel must understand the IMA disciplines and the need for signal support.

***FM 11-75 covers this subject in more detail.***

### 1-2. Communications

Tactical communications transfers information throughout the battlefield. Information is generally divided into three categories:

**Voice.** Voice traffic provides real time user-to-user information flow.

- User-to-user — Interactive two-way traffic.
- Conference — Several parties conversing together.
- Broadcast — One-way area coverage.

**Message.** This is hard-copy information such as documents, charts, maps, and photographs. Message traffic generally falls into two classifications:

- Formal — Passed through the record traffic system.
- Informal — Passed directly between users.

**Data.** This is digital information passed from machine to machine. When computers are linked together to pass information or share resources, the result is a computer network.

User units are responsible for installing, operating, and maintaining all user-owned signal equipment. This includes coordinating with the signal officer for equipment training. The unit staff should address all communications matters to the staff signal officer.

Signal support provides the above services in one of two ways, depending on user requests.

**Common user.** All users of a communications system have access to a large group of subscribers with minimum communications assets.

**Sole user.** This service provides a link between two points where high priority or high-volume traffic prevents sharing common-user links. Sole-user service is no longer used at tactical levels of the Army. Support of joint organizations requires the occasional use of sole-user circuits over satellite systems.

Tactical communications architecture is generally divided into the following wide area networks (WANs):

- Area Common-User System (ACUS).
- Combat Net Radio (CNR) System.
- Army Data Distribution System (ADDS).
- Broadcast Communications System.

**ACUS.** It is a communications system made up of a series of network node switching centers connected primarily by line-of-sight (LOS) multichannel radios and tactical satellites (TACSAT). Army ACUS networks are Tri-Service Tactical Communications (TRI-TAC) at echelons above corps (EAC) and mobile subscriber equipment (MSE) at echelons corps and below (ECB). ACUS provides a multiuser, common-user area system for high-volume voice and data communications. Users at or near extension nodes link to the system for access to other users.

## **FM 11-43**

**CNR.** They are single-channel and frequency hopping (FH) radios which are organic to almost all organizations. CNRs are the primary means of communications in maneuver units. To support the commander, units use these radios in networks such as command, administrative logistical, and intelligence/operations. An example is the Single-Channel Ground and Airborne Radio System (SINCGARS).

**ADDS.** It is an integrated C<sup>2</sup> communications system providing near real-time transmission capabilities to support low- to medium-volume data networks. The system automatically relays information from the origin to the destination transparent to the user.

Subsystems are the Joint Tactical Information Distribution System (JTIDS) and the Enhanced Position Location Reporting System (EPLRS).

**Broadcast.** Communications systems use technology similar to commercial radio stations. Transmit-only stations send information to high frequency (HF) radio systems, satellites, unmanned aerial vehicles (UAVs), or other means. Weather, intelligence, and position location/navigation (POS/NAV) information are support derived from the broadcast system.

***FM 11-75 covers this subject in more detail.***

### 1-3. Automation

Automation refers to computer hardware and software used for various purposes across the operational continuum. Units perform maneuver control and operations through Battlefield Automated Systems (BAS). The units also use other kinds of software to aid in managing many unit functions. These automated systems include word processing, financial analysis, maintenance requests, and personnel databases. Because of the widespread use of automated systems, automation covers several issues including, but not limited to—

- Establishing standards and policies for local automated information systems.
- Developing information management requirements.
- Allocating automation devices.
- Installing system and functional software.
- Installing local area networks (LANs).
- Coordinating interface with other networks.
- Establishing standards to ensure software security.
- Backing up and restoring data.
- Conducting operator training.
- Controlling software versions.
- Performing unit-level system maintenance.

The common hardware and software (CHS) program provides computers and supporting applications as building blocks from which interoperable battle command systems are implemented.

### 1-4. Visual Information

VI is the documentation of military operations: processing, transmitting, reproducing, and distributing visual imagery, graphics production, conferencing, and multimedia presentation services within the theater or tactical environment.

VI assets are found at the corps level and above. Signal staff officers below corps must request VI support when needed. Requests are sent to the next higher echelon's signal office. The signal officer then assists the unit commander by directing VI assets to support the assigned mission. This includes—

- Establishing VI policies and procedures.
- Briefing commanders on capabilities/limitations of combat camera (COMCAM) units and procedures for requesting COMCAM support.
- Integrating VI to support battlefield functional information systems at their level of command.

Units must coordinate VI requirements along functional lines to avoid duplicating VI assets in the same mission area. The unit staff must—

- Develop its own VI requirements and standardize VI equipment and systems to Department of Defense (DOD) and COMCAM unit standards.
- Manage organic VI systems.
- Establish VI policies and procedures according to the recommendations of the signal officer.

Tactical VI includes COMCAM and functional VI support.

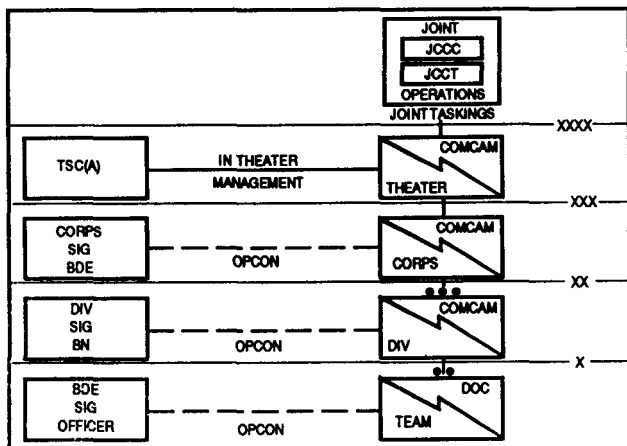
**COMCAM.** Its mission is to document the activities of all military services. This documentation is used for both operational decision making and historical records. COMCAM units document operations or events regardless of classification or sensitivity. Decisions on classification, sensitivity, or release are made afterward through command, intelligence, operations, and staff coordination. COMCAM imagery requirements include—

- Recording or documenting key actions before, during, and after mobilization, deployment, force generation, and force employment.
- Assessing the effectiveness of force preparations, support operations and objectives, and problem identification.
- Evaluating the effectiveness of weapons systems, intelligence related activities, medical support, public affair purposes, and countering enemy propaganda.
- Historical documentation.
- Maintaining stock footage.

At theater and corps, COMCAM support is provided by COMCAM companies. For each division in the corps, support is provided by a COMCAM platoon in the corps' COMCAM company. When tasked, teams from the COMCAM platoon provide support to brigades and battalions.

## FM 11-43

COMCAM teams are task organized. Team size is normally two to four soldiers. Figure 1-1 shows a typical COMCAM support structure. Team size, skill and equipment needs are determined by the mission. All COMCAM units fall under the operational control (OPCON) of their signal officer.



**Figure 1-1. Typical COMCAM support structure.**



**Functional VI Support.** Functional VI is user-owned and user-operated and does not include COMCAM. The primary purpose of functional VI is to support the unique information and decision-making requirements of the specific commander. Examples of functional VI support are the organic activities of military intelligence, psychological operations (PSYOP), public affairs, and medical units.

*FM 24-40 covers VI in more detail.*

## **1-5. Records Management**

Records management is the administration of correspondence, reports, forms, directives, publications, and distribution/official mail. It includes the maintenance of record information, classification/declassification of recorded information, and the implementation of responsibilities under the freedom of information and privacy acts.

**Objectives.** The goals of the records management system are to create the records essential to support, sustain, and document the following:

- Military operations in time of war and operations other than war (OOTW).
- Protect the rights and interests of the Army, its uniformed members, their family members, and civilian employees.
- Distribution/official mail management.
- The Modern Army Recordkeeping System (MARKS) provides procedures for the systematic identification, maintenance, retirement, and destruction of Army information.

## FM 11-43

- Correspondence management limits correspondence to essential requirements. **(See AR 25-50.)**
- The Freedom of Information Act (FOIA) program activities are conducted in an open manner consistent with the need for security and adherence to other requirements of law. **(See AR 25-55.)**
- The Privacy Act (PA) program protects the privacy of an individual from unwarranted invasion by ensuring that collection and maintenance of recorded information about the individual is necessary and accurate. **(See AR 340-21.)**
- Personnel records maintenance during wartime is kept to an absolute minimum. Staffing of records branches will not allow the extensive personal service provided during peacetime.

***FM 11-75 covers this subject in more detail.***

### 1-6. Printing and Publications

Printing and publications are the processes of information composition and representation on media. It covers printing, reproduction, and publications management. There are no organic printing capabilities at corps and below, other than engineer topographic and PSYOP units. Although low-quantity printing requirements can be done with user-owned automated systems connected to printers, large-volume printing and copying requests are performed at theater.

Units with publications accounts order and distribute Army publications to their subordinate units. Although not mandatory, the unit may maintain a publications library

and perform systematic management of publications and reproduction equipment. The systematic management of publications includes initiatives to modernize the Army publications system with new publishing management concepts.

***FM 11-75 covers this subject in more detail.***

## **Section II.**

### **Signal Responsibilities**

The signal officer works for the force commander and is responsible for providing signal support for the following areas: the Army Tactical Command and Control System (ATCCS), Battlefield Information Services (BIS), and Tactical VI Systems.

#### **1-7. Army Tactical Command and Control System**

ATCCS is the integration of the IMA disciplines of communications and automation. All information relating to the battle is divided into seven categories called Battlefield Operating Systems (BOSS) or Battlefield Functional Areas (BFAs). They are—

- Maneuver.
- Fire support.
- Air defense.
- Battle command.
- Intelligence.

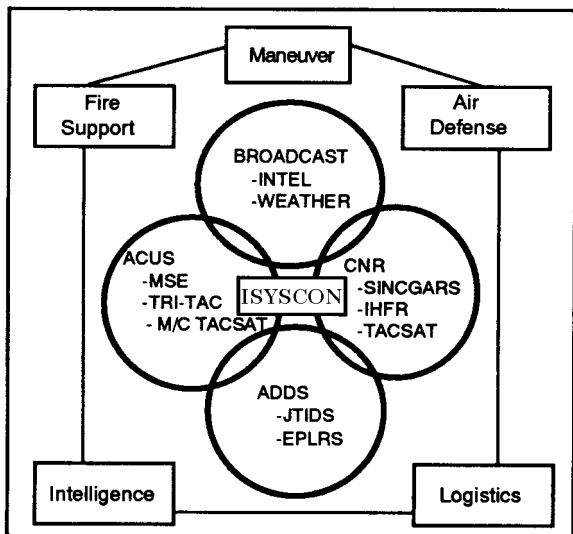
## **FM 11-43**

- Mobility and survivability.
- Logistics.

BASs are the functional information systems which support the seven BOSs.

***TRADOC Pamphlet 11-9 covers this subject in more detail.***

These information systems consist of computer hardware and software that organize and manage battlefield information. All systems must be interconnected to successfully pass voice, message, and data traffic to and from the commander, his staff, and higher and lower echelons. Signal support provides the means to interconnect the BOSs. This is done through four tactical communications systems that support the BFAs. They are ACUS, CNR, ADDS, and broadcast. See Figure 1-2.



*Figure 1-2. The Army communications architecture.*

### 1-8. Battlefield Information Services

Two IMA disciplines, records management and printing and publications compose the BIS. BIS are administrative services that are performed on the battlefield. When a maneuver unit deploys, the organic signal element is responsible for BIS. At brigade and battalion, the Information Services Support Officer (ISSO) is the S1. At division and corps, the ISSO is in the assistant division signal office (ADSO)/G6. The Directorate of Information Management (DOIM) is responsible for BIS in garrison. The nine BIS are—

- Printing.
- Publications.
- Forms management.
- Reproduction.
- Classified document control.
- Distribution/official mail (E-mail).
- Correspondence.
- Files management
- FOIA/PA.

The signal officer uses the methods of direct action and regulation to supervise the BIS.

**Direct Action.** A central point of contact, under control of the signal officer, receives and routes all requests relating to the service. Only three of the nine BIS require direct action. These are distribution, printing, and FOIA/PA.

Distribution consists of—

- Recommending distribution policies and procedures.
- Internal headquarters distribution.
- Coordinating resources for messenger service.
- Official mail and accountable distribution.
- Distribution center operations and pick-up.

Printing consists of—

- Reviewing and validating printing requests.
- Forwarding print requests to the theater reproduction team.

FOIA/PA consists of—

- Recommending policies and procedures regarding both acts.
- Establishing a point of contact in matters pertaining to either act.

**Regulation.** The signal officer recommends local policies regarding all other services. These BIS occur at the user level. The user is responsible for following Army regulations and local policies recommended by the signal officer.

Users must perform all user level BIS. Any questions regarding policies or use of the BIS should be addressed to the signal officer.

***FM 11-75 covers this subject in more detail.***